

AMENDMENT OF CLAIMS

(Claim 1, currently amended)

1. A pile assembly employed in engineering and construction works comprising a pile body formed in a hollow column with an interior hollow space defined by inner surfaces of columnar sidewalls extending lengthwise in the direction of a longitudinal axis of the pile body, and a plurality of openings provided at intervals through ~~on~~ the sidewalls thereof,

wherein the inner surfaces of the sidewalls have a given number of guide rails fixed thereto which are spaced at equal intervals circumferentially around the sidewalls and extending in parallel with the longitudinal axis thereof, and

a core assembly having a movable base member mounting a plurality of longitudinally extending wedge members ending with tips thereon mounted within said pile body,

wherein said movable base member has of guide grooves the same number as guide rails which are spaced at equal intervals circumferentially around its periphery and are aligned in parallel with the longitudinal axis and adapted to engage the respective at least one guide rails ~~is provided~~ extending axially lengthwise in the interior hollow space of the pile body for ~~of allowing the guide~~ a guiding of movement of said core assembly ~~is provided~~ within said pile body,

wherein said core assembly is guided via said guide grooves engaged with the guide rails for movement within the interior hollow space of the pile body to appropriately lead the tips of said wedge members to engage said openings and be projected out from the columnar sidewalls of said pile body.

(Claim 2, previously presented)

2. A pile assembly as defined in claim 1 in which said pile assembly is formed by splicing together the pile body divided in 2 or more portions, with said core assembly provided in each of said divided pile body portions.

(Claim 3, currently amended)

3. A pile assembly as defined in claim 2 in which ~~a plurality of~~ said guide rails are provided with a length that so as to extends across the lengths of said divided pile body portions spliced together to form within said pile assembly.

(Claim 4, currently amended)

4. A pile assembly as defined in claim 2 in which ~~a plurality of~~ said guide rails are provided ~~in~~ to extend across the length of each of said divided pile body portions respectively.

(Claim 5, previously presented)

5. A pile assembly as defined in claim 1 in which said openings are formed as incised apertures opened by exertion of outer force, wherein at least the lower edge portions of tongue-shaped pieces of said opened apertures are connected to said pile body, while said tongue-shaped pieces constitute slopes.

(Claim 6, currently amended)

6. A pile assembly as defined in claim 1 and further provided with a spiral blade for digging soil on an outer wall of a lower end thereof for facilitating said pile assembly to be penetrated in the earth.

(Claim 7, previously presented)

7. A pile assembly as defined in claim 1 and further provided with a pointed leading member with excavating components at the lower end thereof.

(Claim 8, previously presented)

8. A pile assembly as defined in claim 1 in which said wedge members are formed to have length different from the length of wedge members adjacent thereto.

(Claim 9, previously presented)

9. A pile assembly as defined in claim 1 in which the cross-sectional shape of said pile body is designed to be either circular or rectangular.

(Claim 10, previously presented)

10. A pile assembly as defined in claim 1 in which said wedge members are mounted on said core assembly at corresponding position with said openings by components capable of changing angles, such as hinges.

(Claim 11, currently amended)

11. A magnet cross gauge provided with magnets employed in manufacturing of a pile assembly comprising a pile body formed in a hollow column with an interior hollow space defined by inner surfaces of columnar sidewalls extending lengthwise in the direction of a longitudinal axis of the pile body and with a plurality of openings provided on the sidewalls thereof, and a core assembly having a plurality of wedge members ending with tips thereon mounted within said pile body, wherein ~~at least one a~~ given number of metal guide rails are ~~is provided~~ to be attached to the sidewalls extending axially lengthwise in the interior hollow space of the pile body for allowing a guiding of movement of said core assembly within said pile body, and wherein said core assembly is guided via said guide rails to appropriately lead the tips of said wedge members to said openings,

wherein said magnet cross gauge has recesses and respective magnets adjacent thereto of the same number as guide rails to be attached to the sidewalls which are spaced at equal intervals circumferentially around its periphery and are aligned in parallel with the longitudinal axis and adapted to retain the guide rails respectively in the recesses by magnetic force of the adjacent magnets to allows an insertion of ~~a plurality of~~ said guide rails in said pile assembly while maintaining said guide rails in parallel with respect to one another,

wherein said guide rails are can then be fixed to an inner surfaces of the sidewalls of the interior hollow space of said pile body in parallel with respect to one another, and said magnet cross gauge capable of then being removed from said pile while said guide rails remain fixed to the inner wall of said pile body thereafter.

(Claim 12, currently amended)

12. A magnet cross gauge as defined in claim 11 further comprising
a first magnet cross gauge member provided with a plurality of recesses on a
periphery thereof enabling said guide rails to be held therein, magnets mounted
adjacent to said recesses, and a handle attached on one side of said first magnet cross
gauge member;

bar members fixed to said first magnet cross gauge member; and

a second magnet cross gauge member mounted to be movable or unmovable to
said bar members while provided with a plurality of recesses on periphery thereof
enabling said guide rails to be held therein and magnets mounted adjacent to said
recesses.

(Claim 13, currently amended)

13. A method for fixing guide rails within a pile body by employing a magnet
cross gauge provided with magnets employed in manufacturing of a pile assembly
comprising a pile body formed in a hollow column with a plurality of openings provided
on the sidewall thereof, and a core assembly having a plurality of wedge members
mounted within said pile body, wherein a guide rail allowing the guide of said core
assembly is provided within said pile body, and wherein said core assembly is guided
via said guide rail to appropriately lead the tips of said wedge members to said
openings, wherein said magnet cross gauge allows an insertion of a plurality of said
guide rails in said pile assembly while maintaining said guide rails in parallel with
respect to one another, and wherein is further capable of fixing said guide rails to the
inner wall of said pile body in parallel with respect to one another, and being removed
from said pile while said guide rails remain fixed to the inner wall of said pile body
thereafter,

said method comprising

a step to maintain a plurality of said guide rails in parallel with respect to one
another by employing said magnet cross gauge;

a step to determine the position of said guide rails within said pile body after
inserting said guide rails maintained in parallel to one another within said pile body;

a step to fix each of said guide rails to the inner wall of said pile body; and

a step to remove only said magnet cross gauge from within said pile body while having said guide rails remain fixed to the inner wall of said pile body.

(Claim 14, previously presented)

14. A method for fixing said guide rails as defined in claim 13 within said pile body in which said pile body is comprised of the pile body divided in 2 or more pile body portions, wherein said method for fixing said guide rails within said pile body is provided with a step performed prior thereto to splice together said pile body portions.

(Claim 15, previously presented)

15. A method for fixing said guide rails as defined in claim 13 within said pile body in which said pile body is comprised of the pile body divided in 2 or more pile body portions, wherein said method for fixing said guide rails within said pile body is performed to 2 or more pile body portions respectively.

(Claim 16, currently amended)

16. A method for manufacturing a pile assembly comprising a pile body formed in a hollow column with an interior hollow space and with a plurality of openings provided on the sidewalls thereof, and a core assembly having a plurality of wedge members ending with tips thereon mounted within said pile body, wherein at least one a given number of guide rails are to be is provided extending axially lengthwise in the interior hollow space of the pile body for allowing a guiding of movement of said core assembly within said pile body, and wherein said core assembly is guided via said guide rails to appropriately lead the tips of said wedge members to said openings, said method comprising

a step to carry said given number of guide rails into the hollow interior space of the pile body and maintain said guide rails at desired equal intervals circumferentially around the periphery of the sidewalls in parallel with respect to one another by employing a magnet cross gauge having respective recesses and adjacent magnets around the periphery thereof for retaining the guide rails therein,

a step to fix said guide rails on the inner surfaces of the sidewalls of said pile

body either before or after said openings are formed on the sidewall of said pile body, and

a step to push the incised sections of the openings inward to form slopes after the incisions are formed, in case the incisions for said openings are not formed in said step to fix said guide rails, and to guide said core assembly provided with a plurality of wedge members with respective tips formed in acute angle within said pile body by employing said guide rails, and to position said core assembly so that the tips of said wedge members are guided by said slopes and placed adjacent to said openings.

(Claim 17, previously presented)

17. A method for manufacturing said pile assembly as defined in claim 16 in which said pile body is comprised of 2 or more said pile body portions,

wherein said method for manufacturing said pile assembly includes a step to splice together said pile body portions before fixing said guide rails onto the inner wall of said pile body,

wherein said step to fix said guide rails onto the inner wall of said pile body is to install said guide rails so as to extend across a plurality of said pile body portions spliced together.

(Claim 18, previously presented)

18. A method for manufacturing said pile assembly as defined in claim 16 in which said pile body is comprised of 2 or more said pile body portions,

wherein said step to fix said guide rails onto the inner wall of said pile body as well as said step to position the tips of said wedge members to be adjacent to said openings are performed to each of said pile body portions,

wherein a step to splice together said pile body portions each provided with said core assembly is performed subsequent thereto.

(Claim 19, previously presented)

19. A method for manufacturing said pile assembly as mentioned in claim 16 comprising a step to fix a pointed leading member formed in a shape of cone or

pyramid at one end of said pile assembly after performing said steps to fix said guide rails.